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The sun-bath habit of *Dineutes bicolor* was commented upon in this JOURNAL, Vol. VII, p. 222; September, 1899.—WM. T. DAVIS.

Carabus Caseyi Angell.—In 1913, Colonel Thomas L. Casey, in his Memoirs on the Coleoptera, part IV, page 57, described under the name *Carabus lecontei* a new *Carabus* from Texas. In 1846 Dr. John L. LeConte in "A Descriptive Catalogue of the Geodephagus Coleoptera inhabiting the United States east of the Rocky Mountains," Ann. Lyc. Nat. Hist., Vol. IV, p. 444, described, but without naming, a *Carabus* "found dead at Detroit" and "strongly similar to *C. palustris* of Europe." In 1885 J. B. Gehin, in his "Catalogue synonymique et systematique des Coleopteres de la Tribu des Carabides" gave the name of *Carabus Lecontei* to the form described by Dr. LeConte in 1846 previously noted as Colonel Casey's name. *Carabus lecontei* is, therefore, preoccupied I suggest the name *Carabus caseyi* for the insect described by him. It may be noted in this connection that the specimen found by Dr. Le Conte at Detroit and described but not named, was undoubtedly *Carabus mœander* Fischer, an insect common to North America and Siberia and which occurs rather abundantly at Detroit. Gehin's name of *Carabus Lecontei* is therefore a synonym of *Carabus mœander* Fischer.—G. W. J. ANGELL.

PROCEEDINGS OF THE NEW YORK ENTOMOLOGICAL SOCIETY.

MEETING OF OCTOBER 21.

A regular meeting of the New York Entomological Society was held October 21, 1913, at 8:15 P. M., in the American Museum of Natural History, President Dr. Raymond C. Osburn in the chair, and 18 members present.

Mr. Barber recorded the death of Dr. O. M. Reuter, of Helsingfors, Finland, one of the foremost writers on Hemiptera.

Mr. Dow spoke of the illness of Dr. Barnes.

The president read letters from Cornell University in reference to a proposed list of the insects of New York State. Discussion followed, in which Dr. Felt, Dr. Lutz and Messrs. Schaeffer, Davis and Barber participated.

On motion by Dr. Southwick, the president appointed Messrs. Davis, Barber and Leng a committee to obtain further details and report at the second meeting in November.

Mr. Davis read a paper on "The Fungus-growing Ant on Long Island," which will be printed in the JOURNAL. He exhibited specimens and commented on this northward extension of its known range.

Mr. Barber spoke of and exhibited "The Queen of the White Ant found at Lake Hopatcong" and donated the specimen to the local collection. His remarks will be printed in the JOURNAL.

Mr. Schaeffer said he had also found this queen at Mosholu and recorded the capture in the minutes about twelve years ago.

Mr. Engelhardt exhibited specimens of various orders mounted by Mr. Marvin H. Mead of Passaic N. J., and under the title "An Original Method of Mounting Insects" explained the process, which consists in placing on the usual vertical pin a small cube of cork through which passes horizontally a finer elbow pin, the point of which enters the under side or caudal extremity of the insect. Mr. Engelhardt pointed out the advantages resulting, the unobstructed view of the insect and its name label, its rotating on desire to see the under side, and the space saved by mounting several corks on one pin; and dwelt particularly on the peculiar conditions under which Mr. Mead, an invalid with limited use of hands and feet, obliged to use a wheel chair, has succeeded in the last ten years in gathering 20,000 to 30,000 specimens, all in extraordinarily fine condition, within a short distance of his home at Passaic; and closed by urging the members to visit Mr. Mead and give him all sympathy and encouragement.

Mr. Dow endorsed Mr. Engelhardt's remarks, and Mr. Mead's father and brother, who were present, added further details as to the process of mounting.

The merit of the process was discussed by Dr. Lutz and Dr. Felt, the latter expressing commendation and by Messrs. Angell, Grossbeck and Schaeffer, the criticisms being that while admirable for Museum exhibition purposes, the process might prove too expensive and slow for ordinary collectors.

Mr. Dow read a paper on "Dr. Harris and His Times" which will be printed in the Brooklyn Bulletin. Mr. Dow's paper was thoroughly appreciated and was followed by the exhibition by Mr. Harris of the original Zimmerman letter quoted by Mr. Dow.

Mr. Harris stated that recently a package of from 200 to 300 letters addressed to Dr. Harris during the years between 1825 and 1836 had been discovered in the attic of his house, evidently unopened since Dr. Harris had wrapped them up about 1841, when the house was built, and unknown to Scudder when he published his correspondence.

Mr. Harris exhibited three of these letters from Haldeman in 1828, F. E. Melsheimer in 1836 and John Abbott in 1835, reading the latter, one of six in his possession, to the Society.

Mr. Dow said letters of John Abbott were of great interest, since very little could now be learned of him, and his letters were rare.

On motion by Mr. Davis and consent of Mr. Harris, it was voted that the Abbott letters be published in the JOURNAL.

MEETING OF NOVEMBER 4.

A regular meeting of the New York Entomological Society was held November 4, 1913 at 8:15 P. M., in the American Museum of Natural History; President Dr. Raymond C. Osburn in the chair, and eleven members present.

Announcement was made of the death of Miss Frances J. Thompson, a member of the Society for many years; and on motion by Mr. Engelhardt, the sympathy of the members was ordered to be expressed in the minutes.

Mr. Dow read a paper on "Early French Coleopterists" which will be printed in the Bulletin of the Brooklyn Entomological Society.

Mr. Leng read a paper "Notes on the Law of Priority" in which it was pointed out that in the case of *Scolytus*, the rules of nomenclature require the use of *Eccoptogaster* in place of *Scolytus*, Eccoptogastrini in place of Scolytini, Eccoptogasteridæ in place of Scolytidæ, although *Scolytus* Geoffroy was described 30 years before *Eccoptogaster* Herbst, though not in binomial form; and suggested that including *Scolytus* among "nomina conservanda" would be welcome to a large number of economic entomologists, as well as in accord with the principle of priority.

Messrs. Wheat, Forbes, Barber, Engelhardt, Dow, Lutz and the president participated in a general discussion of the subject.

Dr. Osburn referred particularly to the description of the Syrphid genus *Callicera* by the late G. H. Verrall, edited after his death by J. E. Collin.

Dr. Forbes exhibited Lepidoptera collected at Lakehurst, N. J., October 19, 1913, especially calling attention to *Leucania juncicola* Guenee as new to the New Jersey list, its habitat being given by Dyar as Alabama and Texas; and *Epiglaea pastillicans tremula* Harvey as being common at Lakehurst, though previously considered as rare except in Texas.

MEETING OF NOVEMBER 18.

A regular meeting of the New York Entomological Society was held November 18, 1913, at 8:15 P. M., in the American Museum of Natural History, President Dr. Raymond C. Osburn in the chair with nineteen members and three visitors present.

The librarian reported the receipt from the Washington Academy of Sciences of some reprints of papers by Col. Thomas L. Casey, for distribution to our members. He also exhibited the album prepared by Mr. Wunder, from covers and sheets presented by Mr. Davis, for photographs of localities and members in the field, and commented on the pains Mr. Wunder had taken to put these photographs into permanent and attractive form.

On motion, a vote of thanks to Messrs. Wunder and Davis was passed.

The committee on the New York state list reported approval and recommended the election of a delegate to the editorial board thereof.

After discussion by Messrs. Schaeffer, Davis, Engelhardt, Dr. Forbes and Dr. Lutz, the report was approved and Mr. H. G. Barber was elected the delegate of the Society.

Mr. Davis proposed for active membership Mr. Alan Sloan Nicolay, of No. 416-A Grand Ave., Brooklyn.

On motion the by-laws were suspended and Mr. Nicolay was immediately elected an active member of the Society.

Mr. Harris read a paper on "Recently Noted Forms of *Omus*" illustrated by a selection of specimens from his collection, ten of which represented recently discovered varieties. Mr. Harris referred to the recent activity in the field of Mr. Nunenmacher and to the descriptions of Dr. Walther Horn by which several new forms had been made known, so that the total list of species, subspecies and varieties shown on the blackboard by Mr. Harris was as follows:

OMUS Eschscholtz.

1. **dejeani** Reiche.
2. **submetallicus** G. H. Horn.
3. **californicus** Eschscholtz.

Synonyms; *xanti* Lec., and *hornianus* W. Horn.
variety **sculptilis** Casey.

Subspecies inhabiting northern California and Oregon:

- 3a. **audouini** Reiche (extending north to Vancouver).
- 3b. **ambiguus** Schaupp with **humeroplanatus**, and three more unnamed forms.¹
- 3c. **mimus** Casey with three unnamed forms, with one of which **borealis** Casey may be identical.
- 3d. **vandykei** W. Horn.

Subspecies inhabiting Sierra Nevada:

- 3e. **punctifrons** Casey with **fraterculus** Casey (= *rugipennis* Van Dyke MSS.), **confluens** Casey and **degener** Casey as allied forms.
- 3f. **edwardsi** Crotch with **montanus**, **lobatus**, **lucidicollis** and **brunnescens** Casey as closely allied forms.

Subspecies of the more southern mountains.

- 3g. **sequoiarum** Crotch with **lugubris** Casey as closely allied form.
- 3h. **horni** Leconte with **collaris** Casey and **compositus** Casey as allied forms.
- 3i. **intermedius** Leng with **procerus**, **parvicollis**, **cribripennis** and **blaisdelli** Casey as closely allied forms.
- 3j. **laevis** Leconte with **tularensis** and **gracilior** Casey as allied forms.

Subspecies of the coast range, Monterey County, &c.

- 3k. **lecontei** G. H. Horn with **elongatus**, **duani**, **regularis** and **maritimus** Casey closely allied.
- 3l. **fuchsi** W. Horn.

Mr. Harris commented on the extremely minute differences between some of the forms inhabiting different regions on the Pacific slope, but said these differences were apparently constant; they consist as far as indicated by descriptions in modifications of the form of the thorax and elytra and of the

¹ Since described by Dr. W. Horn as **nunenmacheri**, **angusto cylindricus** and **intermedio pronotalis**.

sculpture of those parts, and without typical specimens for comparison it would undoubtedly be difficult to separate some of the forms by description alone, and he hoped that Dr. Horn would ultimately find more positive characters for their separation, perhaps in the setæ. Mr. Harris expressed his gratification at having been able to secure from Mr. Nunenmacher cotypes of the forms recently described from his captures, so that he was able to exhibit a collection nearly complete of all the described forms.

The paper was discussed by Mr. Schaeffer, who commented on the value of the setæ as shown by the work of Geo. H. Horn and others in Carabidæ and especially lately by Dr. Roeschke in his monograph of the Cychrini; by Mr. Leng, who said that ten years ago the specific names in *Omus* represented mainly the races inhabiting the different mountain ranges, while now the varietal names introduced represented rather the races inhabiting the different valleys in each range and were liable under continued exploration to be much further multiplied as new valleys were reached; and by the president, whose questions brought out that the lower the mountains the greater the range of the race inhabiting them, the lofty ridges of the Sierra Nevada apparently acting as barriers to isolate the individuals inhabiting the intervening valleys.

Mr. Woodruff read a paper on "Some Dragonflies of a Connecticut Brook" which will be printed in the JOURNAL.

Mr. Hallinan in discussing this paper described his experiments in cutting and restraining the fore and hind wings alternately, and in estimating the speed of dragon flies. The paper was also discussed by Messrs. Schaeffer, Davis and the president.

The president being obliged to retire on account of another engagement, Mr. Davis, at his request, presided for the remainder of the evening.

Mr. Henry Bird read a paper on "A New Species of Noctuid Moth Subsisting in New York City," and exhibited the moth *Papaipema lysimachia*, its larvæ and pupæ, stating that it bred commonly in the stems of the whorled or four-leaved loosestrife; it has heretofore been confused with a species very similar in the adult stage boring in columbine.

The paper was discussed by Dr. Forbes and Messrs. Davis, Grossbeck, Engelhardt and Schaeffer, especially in regard to the different results attained by change of food, some species being stable against, others being affected by change of food; the larvæ being sometimes affected, but the imagos not. In one case a batch of eggs was divided and two supposedly different species were reared by difference in feeding. Mr. Engelhardt mentioned the similar case of *Sesia pictipes*.

Mr. Schaeffer exhibited his collection of the genera *Temnochila* and *Tenebroides* and spoke in detail of the characters by which the species would be separated in his forthcoming paper. He mentioned the difficulty he had in recognizing the true *virescens* and the pleasure he experienced in finding *acuta* and *virescens* correctly separated in the small collection of Coleoptera in the Long Island Historical Society.

Mr. Schaeffer also spoke of the genus *Scarites*, saying that *S. subter-*

ranus, the common species about New York, extends from the Atlantic to the Pacific and even into Mexico, with slight varieties in which the elytra are smoother, known as *texanus* and *californicus*. *S. substriatus* is larger, differs in the outer joints of the antennæ more elongate and in the possession of two or three denticles in the emargination behind the second tooth of the front tibiæ where *subterraneus* has generally only one. *Substriatus* has also a smooth variety in Texas called *lissopterus*. A third species, *alternatus*, is reported with some doubt from Chokoluskee, Fla. It is known from Cuba and has a larger head, elytra different in form and the striæ at the sides of the elytra deeply impressed.

Mr. Schaeffer's remarks were discussed by Messrs. Davis and Leng.

The secretary read a communication from Mr. Joutel on the queens of white ants he had found which will be printed in the JOURNAL.

Mr. Woodruff mentioned that he had received a quantity of white ants from timber in a house at Washington Square, among which were two queens, but not developed as those described by Mr. Joutel.

Discussion by Dr. Forbes and Messrs. Davis and Schaeffer followed.

The secretary read by title two communications from Mr. Dow on *Malachius æneus* and *Alaus canadensis* which will be printed in the JOURNAL.

MEETING OF DECEMBER 2.

A regular meeting of the New York Entomological Society was held December 2, 1913, at 8:15 P. M., in the American Museum of Natural History, President Dr. Raymond C. Osburn in the chair, with twenty members and several visitors, including Mr. Roland M. Harper, present.

Dr. Lutz presented on behalf of Mr. Grossbeck additions to the Society's collection of photographs.

Messrs. Engelhardt and de Vyver also presented photographs.

Prof. J. Chester Bradley of Cornell University, after showing illustrations of the localities on the Canoochee River where he had taken *Cicindela blanda* at or near the type locality cited by Dr. Leconte for its synonym *tarsalis* Lec.; and of clusters of *Hippodamia* as large as one's fist on bushes at summit of Rabun Bald, Ga., read a paper on "Collecting Insects in the Okenfenoke Swamp" illustrated by lantern slides in part loaned by Mr. F. H. Harper, of which many were colored by Mrs. Yantis. The paper and the maps thrown on the screen covered the historical character of this swamp, located in the south-east corner of Georgia and 300 miles in circumference; the character of the vegetation in its different portions, such as the "islands," slightly elevated parts, on one of which, Billy's Island, the expedition camped, where long leaf pines, 80 feet high, are abundant, and where two families named Lee reside permanently; the intervening swamp darkened by the dense vegetation and inhabited by alligators, snakes and great hairy spiders, through which passage for man or boat must be cut out of the trees, bushes and interlacing vines with machetes; the "hummocks" which rise out of the swamp too little to support pines; the "prairies," open places with dense sphagnum and herbaceous vege-

tation concealing the water through which the trails are at least knee deep in soaking wet muck; the "cypress heads," clusters of bushes, etc., gathered about cypress roots, causing the appearance of slight elevations in the prairies; the wetter "bays" where cypress and black gums grow; and the still wetter portions of the swamp where the depth of the water prevents the vegetation reaching the surface and forms runaways and long narrow lakes, once useful to the Creeks and Seminoles as they are now to the few hunters and natives who know the trails through the swamp. Each of these features was copiously illustrated and the botanical characteristics of each, based on data supplied by Messrs. Stewartson Brown and Roland M. Harper, were covered in some detail.

The different expeditions that have penetrated the swamp were mentioned and especially the various journeys by Mr. Harper, starting from Waycross, where the tramways of the Hebard Cypress Co. are of assistance. Professor Bradley said he had entered by that route, also by way of Folkston, but preferred the route by way of Fargo, on account of the rough wagon road, which though deep in water in many places, permitted of taking supplies into the heart of the swamp.

Dealing with the entomological features, the speaker referred especially to the Tabanids, abundant everywhere. *Tabanus mexicanus*, locally called the green cowfly, appeared at daybreak in great numbers, swarming about the tents like a swarm of bees and again at night when the cows came home. *Diachlora*, locally known as the yellow fly, was very abundant and very annoying in the swamp. Dragon flies were also conspicuous by their great numbers and were occasionally so tame as to permit of lifting them gently by hand. *Libellula vibrans*, *axillena* and *incesta* were the commonest species about the tent ropes and buildings; *auripennis* mixed with them, more or less commonly. *Epiaschna heros* in countless numbers sped unceasingly back and forth in search of gnats and other prey. *Pachydiplax longipennis*, *Celithemis ornata*, *Mesothemis simplicicollis*, *Heterina tricolor* and *titia*, *Erythemis minuscula*, *Anomalagrion hastatum* and *Agrion apicale* were all common on Billy's Island or along Billy's Lake, and *Agrion maculatum* in the deeper parts of the swamp, but *Celithemis fasciata*, *C. eponina*; *Erythemis berenice*, *Tramea onusta* were rarely seen, far less common than outside the swamp.

Professor Bradley laid stress upon the great numbers in which certain species occurred and the equally conspicuous absence of other species common in the surrounding region of southeastern Georgia, outside the swamp, including naturally those which failed to find food plants in the swamp and those which generally follow human habitations.

In Hymenoptera there were five species of *Bombus*, several *Polistes*, but apparently no *Vespa*. In Lepidoptera *Caliphilus canius* was found in the piney woods, and *Papilio glaucus turnus* and *P. palamedes* clustered in such numbers about a damp place as to permit once of 50 individuals being covered by a single stroke of the net. These proved later to be all males but one. *P. troilus* was scarce and other Papilios like *ajax*, *cresphontes* and *philenor*

were entirely absent. The Orthoptera were scarce until September when many *Belocephalus* and an *Atlanticus*, probably undescribed, were found in considerable numbers at night by using a flashlight. The katydids were apparently entirely absent.

The illustrations showed many of these insects in color and included also many items of human interest, homemade chairs covered with alligator hide, bee hives made of hollow cypress logs, pelts of the coons, wild cat, bear, and deer that are common in the swamp, methods of striking fish at night, protecting sleeping tents from mosquitos; and showed well the picturesque features of the swamp, the trees draped with Spanish moss, the tupelos rising straight from the coffee-colored water, bearing clumps of mistletoe with the herons resting on their branches, and the sunset colors shining over all.

Professor Bradley's remarks also brought out some of the less agreeable features of the swamp, for he referred more than once to the swarms of mosquitos, the great hairy spiders, the moccasins and rattlesnakes, the wading through trails so moist that "the more you keep out of the trail the better the walking," the swimming in 'gator holes in search of aquatic hymenoptera; and were all followed with close attention.

On account of the late hour, Mr. Wintersteiner's paper was postponed and the Society adjourned for informal discussion of Professor Bradley's topic.

MEETING OF DECEMBER 16.

A regular meeting of the New York Entomological Society was held December 16, 1913, at 8:15 P. M., in the American Museum of Natural History, President Dr. Raymond C. Osburn in the chair, with eighteen members present, and several visitors, including Mr. Buchholtz of the Newark Society.

At the request of the curator, Mr. Leng announced that the Coleopterists would resume Saturday afternoon meetings on December 20, the subject being the Barini.

Mr. Davis, as delegate to New York Academy of Sciences, stated that the appropriation for Biological Survey of Porto Rico having been obtained, an activity in which our members would be interested might soon be expected.

The president and Dr. Lutz referred to the general character of the work anticipated.

Mr. Dow read a paper entitled "John Abbot of Georgia" in which he presented a lifelike picture of this early entomologist who collected and figured many of the insects described by Boisduval, the elder Leconte and others, and carried on the researches recorded in the work of Abbot & Smith, continuing at the age of 85 years, a correspondence with Dr. Thaddeus W. Harris, from which some of Mr. Dow's data, heretofore unknown, were obtained. This paper will be printed in full in the JOURNAL.

Mr. Bird under the title "A Thirteen-year Environmental Search" recounted the difficulty of locating the food plant of the moth *Papaipema speciosissima*, finally found to be the large rootstock of three different species of fern growing at the borders of salt meadows near Newark, where Mr. Buch-

holtz had assisted in the search. Mr. Bird's remarks were, as he expressed it, illustrated by the proceeds, a number of the moths, the inflated caterpillars, the pupæ and the rootstock of the fern showing the borings, as well as two of the parasites.

In reply to questions by Mr. Engelhardt, Mr. Bird said that only old established roots were infested and that the larvæ leave them to pupate.

Dr. Lutz read a paper on "Humidity and Experimental Work" in which he pointed out the preponderance of data on temperature at the expense of other factors and the difficulty of isolating the consequences of temperature and humidity; leading to the possibility that many results ascribed to temperature are really due to concurrent differences in humidity.

Mr. Engelhardt showed photographs of a nest of *Vespa crabro* made by Dr. Bigelow at Sound Beach, Conn., and found by three boys, also a photograph of the boy who removed the nest after the operation.

MEETING OF JANUARY 6.

The annual meeting of the New York Entomological Society was held January 6, 1914, at 8:15 P. M., in the American Museum of Natural History, President Dr. Raymond C. Osburn in the chair, with 13 members and two visitors, Mr. J. H. Emerton and Mr. W. T. Bather, present.

The secretary reported 16 meetings held during the year, with an average attendance of nineteen members, the largest attendance having been twenty-eight members, and the total number in attendance at one or more meetings being fifty-one, of whom twenty-nine have attended all meetings more or less regularly.

Dr. Lutz, in resigning his office as curator, extended his thanks to all the members for the assistance they had given him in developing the local collection.

Mr. Davis, as delegate to the council of the New York Academy of Sciences, reported that Mr. Louis H. Joutel had repaid the grant of \$150 made to him some years ago from the Herrmann Fund to further his studies of white ants, having been prevented by his long-continued illness from completing them. At the request of the president, Mr. Davis added that the council had received the repayment unwillingly, and stood ready to defray the expense of stenographic or other assistance necessary to facilitate the recording of the data accumulated by Mr. Joutel, should his health permit of his dictating the results of the studies made previous to his illness.

Mr. Schaeffer spoke of the value of the information gathered by Mr. Joutel and the desirability of recording it if possible.

The nominating committee reported the following list of officers and committees for 1914:

President—Raymond C. Osburn.

Vice-President—Harry G. Barber.

Secretary—C. W. Leng.

Treasurer—William T. Davis.

Librarian—John A. Grossbeck.

Curator—Andrew J. Mutchler.

Executive Committee—C. W. Leng, E. G. Love, Charles E. Sleight, Geo. P. Engelhardt, Robert P. Dow.

Publication Committee—Charles Schaeffer, Frank E. Lutz, W. P. Comstock, Lewis B. Woodruff.

Auditing Committee—Christian F. Groth, G. W. J. Angell, C. H. Roberts.

Field Committee—John D. Sherman, Ernest Shoemaker.

Delegates to the Council of the New York Academy of Sciences—William T. Davis.

On motion by Mr. Angell, the nominations were declared closed, and the secretary was instructed to cast an affirmative ballot.

A vote of thanks to Dr. F. E. Lutz, the retiring curator, was moved by Mr. Leng, and at the suggestion of the president, unanimously adopted by a standing vote.

Mr. S. Bevin, of 488 Myrtle Ave., Flushing, L. I., was proposed for active membership by Mr. Davis. On motion the by-laws were suspended and Mr. Bevin immediately elected.

Dr. Osburn presented some general remarks as an annual presidential address, in which he pointed out the social advantage of our meetings, but dwelt particularly upon the different phases of entomology in which our members are interested, and the consequent advantage to each member of having different views of the subject brought to his notice. Speaking of the history of the Society, Dr. Osburn said: "It was founded by a mixed class of students and collectors of insects, though the interest was not so general in the earlier years as it is at present. But that can partly be explained by the fact that whole branches of zoological science have been added since this Society was organized, and others were at that time in their beginning. Think for a moment of the growth of economic entomology during these years, and that the doctrine of evolution has become firmly established in the popular mind; consider that the transmission of diseases by insects has been proved since this Society was organized, thereby opening up whole fields of entomological research; that the subject of genetics has been properly based during the same time with some of the very best work in transmission segregation, analysis and fixing of hereditary characteristics done upon insect material; that much of the hereditary basis of transmission of characters in the germ cells has been worked out on this same group within the past dozen years, and that the study of ecological relations has had almost its entire growth as a science in the same time, and one can easily understand why the New York Entomological Society of today differs from that of 1892 in its attitude toward entomology and general science."

Dr. Osburn closed his remarks by an expression of his appreciation of the spirit of mutual helpfulness and generosity evident at our meetings, and his hope that at the end of another year we may feel that we have advanced personally in our subject and that our subject has been advanced to some extent because of our labors.

Mr. Wintersteiner exhibited his collection of the American and European species of *Cercyon* and read a paper entitled "Preliminary Remarks on *Cercyon*" in which he pointed out that structural characters separate three groups of different habits, viz.: dwellers by the seashore, under manure and under decomposing vegetation, and that while some species, at least, of the first two groups, possibly carried by ocean currents or by commerce, seemed to be common to the old and the new world; the species of the third group, living under decomposing vegetation, are not, as a rule, identical in Europe and America. The circumpolar distribution of the genus, accepted as a fact by Dr. Horn, becomes therefore very doubtful.

This paper was discussed by the president and Mr. Schaeffer, and will be printed in full in the JOURNAL.

Mr. R. P. Dow read a paper on "The Greatest Coleopterist" in which the early life of Dr. Leconte, his relations with his father, and his accomplishments during thirty-nine years of active entomological work, were remarkably portrayed. This paper will be printed in this journal.

Mr. Leng read a paper "Notes on *Scaphinotus*" which will also be printed in the JOURNAL, exhibiting his collection and a drawing of *S. shoemakeri* n. subsp. made by Mr. Ernest Shoemaker, who had found the specimens near Washington, D. C.

Mr. Angell exhibited his long series of this and other species of *Scaphinotus*.

Mr. Davis read a paper on "The Flight of *Cicindela unipunctata*" illustrated by specimens with the wings expanded, and another on "Swarming of *Dineutes discolor* and *Gyrinus dichrous*," which species he found did not mingle. These will also be printed in the JOURNAL.

Mr. J. H. Emerton, present as a visitor, on request, spoke of the spider *Epeira labyrinthea*, and an allied species, differing in form of body and markings, in its web and other characteristics, and which has so far been found only in the mountains of Colorado, and in a swamp in Maine, where, Dr. Fernald states, certain Colorado mountain plants are also found.

Mr. Angell called attention to the name *Carabus lecontei* Casey as being preoccupied by *C. lecontei* Gehin proposed for a form of *C. Mareander* from Lake Superior, mentioned but not named by Leconte.

MEETING OF JANUARY 20.

A regular meeting of the New York Entomological Society was held January 20, 1914, at 8:15 P. M., in the American Museum of Natural History, President Dr. Raymond C. Osburn in the chair, and twenty members present.

The curator reported the local collection of spiders as now aggregating 196 species, and read a letter from Mr. J. H. Emerton, mentioning the ease with which collectors of Coleoptera could add to this number by simply putting spiders encountered into alcohol.

He also mentioned gifts to the local collection of *Scaphinotus shoemakeri* from Mr. Angell, and of *Scydmanida*, *Pselaphida* and *Aleocharina* from Mr. Leng.

Mr. Davis spoke of "Some Methods of Caring for Insects" stating that while in Florida he found some methodical treatment of the 5,000 insects caught very necessary. He particularly recommended cigar boxes, divided through the middle by an extra board to prevent the cover breaking, and packed with alternate layers of paper and cotton. The paper should be about as heavy as newspaper, the box should be tightly packed to obviate shifting of contents, and naphthaline should be freely used to deter ants and prevent mould. Such boxes, Mr. Davis said, will hold a large number of insects, the papers may be used to record data of any sort; and the boxes, when filled, may be mailed home to await the collector's return. In the field this packing takes less time than paper rolls, and avoids crushing the bodies and other distortions. He also recommended small bottles separated by corrugated paper for alcoholic specimens, the alcohol to be poured off before shipment, so the specimens would be simply moist, the bottles to be filled to prevent contents moving. Lepidoptera he found were best pinned in the field and grasshoppers preferably packed dry in cigarette boxes. Dragonflies were best preserved in 95% alcohol, by which treatment the natural colors were retained, but katydids would change color in alcohol and travel best in a weak solution of formaldehyde, 19 parts of water to 1 part of commercial formaldehyde. Especial care should be exercised to keep heavy and light-bodied insects apart, as for instance dragonflies and grasshoppers.

Mr. Davis also showed some appliances to facilitate mounting, especially a board devised by Mr. Sleight for mounting small beetles on points. This was as thick as the distance from pinhead to the paper triangle and provided with a row of holes down each side. The beetles were laid alongside the holes, on their backs, and the pins, with the paper triangle attached and tipped with glue, were dropped into the holes. Mr. Wheat suggested that a groove parallel with the row of holes would aid in keeping the beetle straight on the triangle and avoid some becoming mounted sidewise.

Mr. Davis also showed his method of pinning insects on thick sheets of peat to prevent the legs drooping in drying, with subsequent liability of breakage, and mentioned that Col. Wirt Robinson used a pasteboard box for the same purpose. Other methods were shown for making mounts for Lepidoptera out of cigar boxes, cotton and glass, for stretching Lepidoptera on flat boards, and for keeping glass vials in boxes of the usual collection size. Also a method of accommodating rapid increases in collections by putting one or two specimens of each species in the first box and adding boxes for additional material. In closing, Mr. Davis spoke of softening methods, recommending a softening jar or box as preferable to hot water, which he found liable to change colors. This led to some discussion, Mr. Angell stating that he had always used cold or tepid water, with a satisfactory result after 15 or 20 minutes' immersion, with a final dip in alcohol to hasten drying. Mr. Schaeffer objected to the resulting damage to pubescent insects.

In discussing Mr. Davis's remarks, Dr. Osburn pointed out that alcohol was unavailable and particularly in foreign countries was liable to lead to

postal difficulties; Dr. Lutz pointed out that where the green coloring is due to chlorophyll, alcohol cannot be used, and mentioned that cotton can be advantageously used to fill up bottles.

Mr. Nicolay read a paper on "The *Mordellidae* of New York State" in which he reviewed individually the fifty-one species known to occur in the state and pointed out the preponderance of species in the more mountainous regions.

His paper was discussed by Messrs. Dow, Schaeffer and Leng and will be later printed in full.

Dr. Lutz read a paper "Biological Notes on *Drosophila*" in which, after stating that about 70 variations from normal type have been observed, he pointed out the results that have been obtained in two of them, viz.: the wing variation and the eye-color variation. In captivity it has been possible to fix these variations in a comparatively small number of generations, so that they breed practically true, and become in a sense, new species: but if exposed to competition with normal forms in captivity, as they presumably would be in a wild state, they quickly return to normal form. In *Drosophila*, these variations are disadvantageous to the species, that is the shortened wings artificially produced detract from flying power and the pale eyes from seeing power; and therefore the females choose a normal mate in preference to an abnormal one, resulting in the abnormal features being quickly extinguished in the offspring. The observed variations have all been natural mutants originally, and as liable to occur in a wild state as in captivity; but not liable to be perpetuated in a wild state. Should the variation, however, be advantageous to the species, as appeared to be the case in some of Dr. Tower's experiments with *Leptinotarsa*, the preference of the female might be reserved and the variation become perpetuated in the offspring.

Dr. Lutz pointed out the immense number of new species capable of resulting from the possible combinations of 70 different variations, any one of which, though not likely to be perpetuated, might easily arise in nature and even survive for a few generations; and if caught, pinned and subjected to the usual taxonomic treatment, almost certain to become a type; and in view of the facts now made plain by experimental work, he said one may well pause to entertain the suspicion that many of the obscure species recently described are perhaps merely examples of such variations occurring in nature.

Dr. Lutz exhibited tables derived from 4,000 experiments, the large number eliminating the chance of error, covering the results stated and exemplifying also the relative duration of larval, pupal and mature life under various conditions.

His remarks were discussed by Dr. Osburn and Messrs. Davis, Schaeffer, Angell and Leng, the latter recalling that the phrase "taxonomic unit" is now used by some authors to indicate an aggregate of individuals of doubtful standing.

Mr. Comstock exhibited two boxes of *Lycanida* and referring to the light thrown upon certain puzzling species by the figures recently published of

Boisduval types, said that *Thecla putnami* and *itys* seemed to be geographic races of *Thecla sylvinus*, since in the large series he showed, the variation could be traced and each, moreover, was confined to its own special territory.

Mr. Wheat brought up for discussion the use more than once in the same genus of such names as *rufa*, *minor*, *major*, etc., to indicate parallel variations in different species. Dr. Osburn, Dr. Lutz, Messrs Schaeffer and Comstock spoke on this subject, the consensus of opinion being that though used by some authors, the practice was contrary to the rules of nomenclature, and liable to confusion.

Mr. Angell referring to the alleged synonymy of *Scaphinotus unicolor* and *heros*, exhibited a *Scaphinotus* collected by H. P. Loding, at Mt. Vernon, on the Mobile River, in southern Alabama, with typical *heros* and *shoemakeri*, and said that the Alabama specimen while nearer to *S. elevatus* than *heros*, complied perfectly with the figure and description of *unicolor*, besides coming from the probable locality for that species. In his opinion therefore, this specimen represented *S. unicolor* and *heros* could not be a synonym.

Mr. Angell also exhibited a specimen of *Carabus cancellatus*, derived from the Jülich collection, to which it was presented by Mr. Wilt; this and other specimens of *C. cancellatus* were taken from a bottle containing only American insects and collected at Wilmington, N. C.

Mr. Angell also exhibited a specimen from the Schaupp collection, labelled N. Y., resembling *Carabus tadatus*, but much more elongate.

Mr. Davis, expressing admiration of Mr. Comstock's boxes, led the latter to give some details of their manufacture from binders' board for top and bottom, lock corner frames and homemade cork.

The latter, Mr. Comstock said, was made by spreading the cork in which grapes are packed, one inch deep, in a suitable frame, cooking it 20 minutes and compressing with an ordinary letter press to $\frac{1}{4}$ inch thick. The action of the heat caused the natural sap, in the absence of air, to cement the mass into a solid sheet, just as the linings for ice boxes are made on a larger scale.

Mr. Leng exhibited a dark specimen of *Coccinella* received from Dr. W. E. Britton and said it was possibly a melanic form of *C. monticola*.

Dr. Osburn recorded the emergence of a cabbage butterfly in January, in an apartment house.

Mr. Davis mentioned the excellent collecting in the reptile house in the Zoological garden, where under the straw, provided for the great Galapagos turtles, he had found four species of cockroaches. The weight of the turtles was somewhat of a disadvantage; but with Mr. Snyder's help he had removed the turtles from his garments, as well as the roaches from their steam-heated abode.